

**WINDSHIELD WIPER MOTOR WITH MOLDED
SLEEVE AND THRUST ELEMENTS**

ABSTRACT

A method and apparatus for forming and mounting
5 a sleeve and a thrust member in a bore in a motor/gear
drive housing shaft to support the motor/gear drive shaft
against radial and axial movement. Gates are formed in
the motor/gear drive housing and communicate with
separate first and second bores in the housing. A mold
10 core is inserted into the housing and closes off one bore
to allow the injection of molten plastic into a cavity
formed between the tip end portion of the mold core and
the first bore to form an annular sleeve. The annular
sleeve has an inner diameter larger than the outer
15 diameter of the end tip portion of the motor/gear drive
shaft to be nominally spaced from the outer diameter of
the drive shaft, but is supportingly engaged by the drive
shaft under radial deformation of the drive shaft.
Insertion of the drive shaft into the housing causes the
20 tip end portion of the drive shaft to sealing close the
second bore in the housing allowing the injection of
molten plastic into the second bore to form a thrust
member axially engaged with the end of the drive shaft to
resist axial movement of the drive shaft during
25 operation.